

Professional capabilities for medical radiation practice

Preamble

This document is submitted by the Medical Imaging Stream Leader of the Medical Radiations degree program at RMIT University, School of Medical Sciences, Victoria.

This submission will be specific to Domain 6A: practice in diagnostic radiography and to Scope A (page 5) as our graduates are provisional registrants after graduating from RMIT University.

This submission draws insight from the academic content of the RMIT program, how our graduates are prepared and the long and successful history (approx. 25 years) of the paid Intern program.

It also draws upon knowledge of RMIT University graduates preparedness to participate in the paid Intern program and experiences of the paid Intern program and the transition towards becoming an independent practitioner.

Introduction

In Victoria, the paid Internship model for Medical Radiations graduates has provided a foundation for the professional development of an entire generation of practitioners who now provide their services to the Victorian community. These medical radiations professionals comprise perhaps the majority of current practitioners and underpin today's strength of the Medical Radiations profession. These practitioners, have also contributed widely to our professional body (the Australian Institute of Radiography), provided representation on government (state and federal) committees, published learned journal articles, provided educational inputs (clinically and academically), have practiced their profession internationally and, in some instances, attained higher degree qualifications such as Masters and PhD. Further to this, practitioners trained under this scheme are now Chiefs of departments, Deputy Chiefs, Tutors, Clinical Educators and in charge of imaging modalities. All this is a testament to how quality training, delivered for about 25 years, can achieve a robust and quality workforce.

The current paid Internship model has provided safe medical radiations services to the public and delivered world leading training. It has allowed interns to achieve a level of competency and sustain this competency.

Response to questions

“Questions for consideration

The National Board invites comments and feedback from interested parties on the Professional capabilities for medical radiation practice.”

1. Are the domains for the professional capabilities appropriate?

This author agrees with the broad themes of what registered practitioners must be able to do, as stated in domains 1 to 6 inclusive.

With domain 6A, this author believes that the entries in the left column, “What diagnostic radiography practitioners must be able to do, in addition to the capabilities required under domain 6” are too simplistic. Items 1 to 5 inclusive are appropriate, realistic and readily achievable. I have concerns about items 6 to 9 inclusive as the word “describe” is used. This implies that there is no requirement for provisional registrants to attain some level of competency in these modalities through practical “hands-on” experience. This will result in a provisional registrant having diminished clinical skills (compared to current Victorian standards).

In Victoria, practical clinical skills in these modalities are attained and should continue to be attained as it will result in a better rounded practitioner, a more knowledgeable practitioner and a higher skilled practitioner. In essence, the highest possible standards should be maintained.

I do, however, have concerns about the “openness” of certain words used to demonstrate such capabilities (right column). For example, point 1.a. “using their knowledge of ...” The word “knowledge” needs to be defined. Other examples include those that contain the word “understanding.” Examples are; point 2.a. “Understanding the legal frame work ...” and point 4.a. “Understanding digital imaging processing ...” Also, other words or phrases include “comprehending...” , “having skills ...” , “having knowledge...” and “being skilled ...”

Such words or phrases, without clear and specific definitions, can be open to lax interpretation and may have the consequence placing patients at risk.

I would like to put forward that provisional registrants must have the level of knowledge that allows them to understand what would be the exact consequences when they adjust certain parameters on equipment. For example; kVp, mAs, tube angulation, distance, etc (general projection radiography), kVp, mAs, rotation time, slice thickness, algorithm, etc (CT) and pulse sequences, slice thickness, number of slices, TE, TR, and other scanning options (MRI). These are just limited examples in these modalities that may have consequences on delivering increased radiation dose to a patient, or increased scanning time, or both. Importantly, provisional registrants need to have an understanding of image quality and the parameters that affect this.

These, and more, need to be clearly stated and defined, rather than have words or definitions that are open to interpretation. I understand that such an approach would require more time to frame, and would require input from a number of practitioner experts, however, it is warranted if we keep in mind that the outcome we are aiming for is training provisional registrants to be competent and maintain public safety while delivering health care services.

This author will not make a comment in relation to domain 6B and 6C, as this author is not trained in radiation therapy or nuclear medicine.

2. Are there additional domains necessary to identify the professional skills, attributes and the application of knowledge necessary for entry-level independent practice?

The topics/themes of domains 1 to 6 inclusive seem appropriate, however, as stated earlier in relation to domain 6A, the openness of certain words and phrases that can lead to individual interpretations concerns me. From a public safety perspective, and a quality imaging service perspective, there will be inconsistencies across clinical centres.

3. Are the descriptions of what a practitioner must be able to do suitable for entry-level practitioners?

The topics/themes of domains 1 to 6 inclusive appear suitable and are expectations of modern healthcare practitioners. Domain 6A, points 1 to 5 are also suitable and form part of the expectations of provisional registrants in Victoria, currently.

As stated previously, it is the relaxed interpretation that can be given to some of the words or phrases used that need to be addressed; that is, be made more specific.

If we consider what undergraduate diagnostic radiography students learn throughout their Medical Radiations university degree, then the proposed practitioner descriptions for provisional registration will not challenge them and certainly not encourage them to excel. At RMIT University, Medical Imaging (or Diagnostic Radiography) students are academically assessed in imaging modalities pertaining to this stream. They are also provided with approximately 5 to 6 weeks of clinical practice time in each semester in second and third year, in which students gain “hands-on” clinical experience, under direct supervision, in general projection radiography, fluoroscopy, operating theatre image intensification, CT, angiography/interventional, MRI and ultrasound.

4. Are the descriptions of how capability can be demonstrated suitable?

Again, for domain 6A, being able to “understand” or “describe” or “having knowledge” etc are not specific or prescriptive. There is a fear that this will lead to standards being lowered, and in turn, place public safety at risk. A time may come where the quality of imaging that a patient receives will be more determined by the hospital or clinical centre that the patient attends, rather than the standard being attempted to be set by the MRPBA.

The descriptions need to be more specific. This will place responsibility on both the supervisor (or administering clinical centre) to provide correct opportunities for learning and attaining competency, and the provisional registrant to learn the clinical skills required to attain the set of clinical standards in each modality.

At the request of the MRPBA, this author is prepared to form a committee of suitable clinical practitioners and academics and establish more prescriptive descriptors for the MRPBA to consider. Such an approach will make clear the level that is set and that is to be achieved. It will also make it easy to determine if the supervisor or clinical centre is able to provide suitable training opportunities to meet these and it will also be easy to establish if a provisional registrant has met the set level. If, instead, the MRPBA, would like to establish its own committee to work on more specific descriptors and more specific and practical capabilities, I would make myself available to contribute, if required/requested.

5. Do the descriptors provide sufficient capacity to be applied in a range of clinical settings?

For domains 1 to 6 inclusive, the descriptors, as they are written, may be applied in a number of clinical settings and/or scenarios.

The descriptors for 6A need to be more prescriptive so that both parties, supervisor and provisional registrant, are aware of what specific levels needs to be achieved. The descriptors also need to state explicitly what the exact level of skill and knowledge that is to be attained across a range of complex clinical cases and the length of time or duration at which a provisional registrant must continually maintain that standard.

6. Are the definitions of each domain appropriate?

Focussing on domain 6A, as the definitions are currently written, they are not appropriate, as they can be interpreted in many ways; leading to inconsistency in the skill level of nationally registered practitioners. This would be contrary to the

fundamental principles to national registration. As the overriding purpose of national registration is patient/public safety, definitions must be explicit and set to high skill levels.

7. Is it appropriate to require the same level of knowledge and skill in CT of entry-level practitioners in each division of practice?

It is not appropriate, as we need to consider the exact role of CT imaging and CT images, currently, in the three divisions.

A Medical Imaging department (diagnostic radiology) is required to use CT across all patient groups (neonate, paediatric, adolescence, adult and geriatric) and across all pathologies/trauma and perform complex reformations and post processing data reconstructions – all for diagnostic purposes. This also includes using intravascular contrast media with automatic pressure injectors.

A Nuclear Medicine department would not be expected to use CT to image frontline trauma patients, such as acute head trauma, trauma of the extremities and trauma involving the abdomen and pelvis. With the advent of hybrid imaging such as PET/CT, there would be areas that overlap with Medical Imaging (such as contrast studies for oncology patients and CT of the chest in patients with suspected pulmonary embolism).

In Radiation therapy, CT images are used for Simulation CT and for radiation therapy planning. There would be a need to know CT imaging with intravascular contrast media for oncology patients and volume acquisitions (head) for radiosurgery (this is also performed with MRI images).

As a note of interest, at Peter MacCallum Cancer Centre, a PET/CT scanner has been installed in the Radiation therapy department and it is operated by a suitably trained Nuclear Medicine technologist.

In summary, the descriptors, or criteria, for CT, should be tailored to the specific CT activities of the division.

8. Is the document clear?

The author of this submission commends the MRPBA on this draft document and thanks the MRPBA for the opportunity to contribute. The document is easy to read and simple to follow.

I reiterate however that the needs to provide certainty in descriptions on ways that capabilities will be demonstrated.

9. Is the glossary correct and comprehensive?

The terms and definitions provided in the Glossary section are correct.

The terms, however, are limited and do not list what MRPBA mean by certain words or phrases used throughout its draft document.

Words that I would have expected the MRPBA to define in this draft document include, but are not limited to:

Knowledge

Understanding

Skilled

Using their knowledge

Having knowledge

Having skills

Comprehending

Evaluating

Describe

Being skilled

10. What is the likely impact of this proposal on individual registrants?

For Medical Imaging (Diagnostic Radiography) graduates from RMIT University entering provisional registration, this proposal will be achievable. My concern is that of public safety. This current proposal may appear to set standards that are lower than the current standard and this should be addressed.

11. Are there jurisdiction-specific impacts for practitioners, or governments or other stakeholders that the National Board should be aware of, if these capabilities are adopted?

The National Board needs to take account of the high quality internship program that has been in place in Victoria for approximately 25 years. This is a paid internship, where the funds are provided by the Victorian State Government, Department of Health.

The Victorian State Government, Department of Health, has committed to funding this model until the year 2020.

12. Are there implementation issues the National Board should be aware of?

The National Board would need to be aware that the Victorian Internship Program will have a higher standard than its proposal and it is a paid internship.

Conclusions and Recommendations

To maintain impartiality and integrity of both the tertiary education sector and the national registration requirements, the two must be kept separate. Any proposal of provisional registration must mandate that the individual is a graduate of a tertiary academic program. It is incongruent to be a provisional registrant while simultaneously being enrolled in a tertiary academic program.

The current paid Victorian Internship Program is a proven model and has been in successful operation for approximately 25 years. In that time, it has delivered a high standard of training and Medical Radiations healthcare. This is a model which others could reasonably benchmark against and aspire to, and thus should be considered as a template for the national standard. To maintain the integrity of the current internship program, and maintain alignment with internships in the medical and healthcare sector, it must be a paid period of provisional registration or internship period.

Importantly, many of the words and phrases used in this draft can be interpreted in many ways; and thus, it is imperative that they are defined explicitly. If not, the three immediate consequences would likely be 1) clinical standards/expectations of provisional registrants being lowered 2) inconsistency in the skill level of practitioners completing their provisional registration and then registering as a nationally registered practitioner and 3) the quality of medical radiations healthcare that a patient receives will become determined by the hospital or clinical centre that the patient attends, rather than the standard being attempted to be set by the MRPBA.